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# Changing CNA Perceptions of Substance Use Disorders

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by

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Abstract

Healthcare workers have perceptions of the patients they care for on a day to day basis. These perceptions may have negative impacts on patient care and therapeutic relationships. Substance use disorder (SUD) patients present a unique challenge due to factors related to the disease process. Certified nursing assistants (CNAs) spend a significant amount of time working with this patient population in the acute care setting. An educational intervention was prepared and presented to newly hired CNAs in a rural regional hospital in the southeastern United States to change perceptions of (SUD). Components of the educational intervention included a 30 minute presentation and a 30 minute escape room. The health belief model and Peplau's theory of interpersonal relationships were utilized as the theoretical framework for the project. To measure the CNA's perception of SUD, the Illness Perception Questionnaire-Addiction (IPQ-A) was employed pre and post intervention. Statistical findings demonstrated there was a statistically significant difference of perceptions in four out of the eight domains on the IPQ-A, emotional representation, illness coherence, timeline chronic, and timeline cyclical ($p < .05$). There was found to be no statistical differences in demoralization, consequences, personal control, or treatment control domains ($p > .05$).

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# SECTION I

## Problem Recognition

Substance use disorder (SUD) has become a major concern in the United States over the last few years. A report from the Office of National Drug Control Policy (ONDCP) in 2011 shed light on the opioid crisis (Davis, Green, & Beletsky, 2017). The ONDCP report was instrumental in creating a framework to help reduce drug overdoses across the United States. Ultimately, the goal was to reduce drug overdose by 15% over a five-year period (Davis et al., 2017). The reduction goal has not come to fruition. In 2011, there were 41,340 recorded overdoses, which increased to 47,055 in 2014 (Davis et al., 2017). According to Davis et al. (2017), this level of overdoses exceeds the numbers of people who died from Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) per year at its highest point. Prescription medications have contributed to the issue but has slowed due to regulations around prescribing opioids. Unfortunately, overdoses from illicit drugs, such as heroin, have increased threefold since 2010 (Davis et al., 2017). Currently, 2.4 million people in the United States are classified as having severe Opioid Use Disorder (OUD), which means they are dependent on opioids and/or heroin (Vashishtha, Mittal, & Werb, 2017). The leading cause of preventable deaths prior to 2013 was motor vehicle accidents. However, today, the leading cause of death has become drug overdose (Vashishtha et al., 2017). Although there have been many attempts to slow the crisis through policy changes and funding for SUD and recovery, the epidemic continues.

The national crisis has become a local issue for a rural community. SUD and overdose have increased significantly over the last couple of years. Bordas (2017)

explains in the first eight months of 2017, there were a record 230 documented cases of opioid overdose, which was an increase from 2016, where there were 84 documented opioid overdoses in the same period. SUD patients are creating a strain on local resources, especially in the acute care setting. Resources in the hospital are increased mainly to ensure the patient is safe while in the acute care setting. Sitters or other healthcare staff are typically assigned in low ratios to monitor the SUD patient closely. Hospitals are not reimbursed for ongoing treatment, so hospitals treat the immediate threat caused by the overdose, but do not have ongoing treatment for these individuals (Bordas, 2017). Many times, patients are released from the hospital after being stabilized with minimal follow up, potentially creating a scenario where the person will use again within a short amount of time. Educating healthcare workers becomes essential to caring for this patient population effectively.

## Identified Need

### Education

The opioid crisis has put a substantial strain on healthcare facilities and healthcare workers. Studies show healthcare workers have negative perceptions of patients with SUD, creating a potentially stressful environment for patients and staff (Fabri & Loyola, 2014; Raistrick, Tober, & Unsworth, 2015). For example, Raistrick et al. (2015) explains physician's scores are low on the overall therapeutic attitude scale. The overall therapeutic scale is a combination of four subscales which measure role adequacy, role legitimacy, positive outcome expectancy, and self-efficacy. Physicians were found to have scores as low as 23.8 on a scale of 100, decreasing the likelihood of providing patients with significant interventions for their afflictions (Raistrick et al., 2015). In a

qualitative study, Fabri and Loyola (2014) found staff have a difficult time interacting with aggressive, depressed, excessively talkative, or drug using patients, leading to an overwhelming sense of discomfort for the nurse. This lack of understanding regarding the SUD patient is pervasive throughout healthcare workers, including patient care technicians, who work very closely with patients throughout a shift (Raistrick et al., 2015).

**Effects on Certified Nursing Assistants**

In a local facility, the change in patient population has created a great strain on resources that are available. Due to the increase in SUD, many nursing units are struggling to cover needs related to the SUD patient population. According to the nurse informaticist (personal communication, February 15, 2018), inpatient SUD patients have increased from four to five a day in 2017 to 20-30 SUD patients a day in 2018. The increase in the SUD population is having effects on all staff members.

In 2018, the certified nursing assistant (CNA) coordinator of a local acute care facility conducted a hospital wide learning needs assessment to figure out what topics were most important to CNAs. Overwhelmingly, the CNA population in the facility stated they wanted more education on how to take care of SUD and behavioral health patients (CNA coordinator, personal communication, February 26, 2018). CNAs identified a significant gap in knowledge, not only related to caring for the SUD patient, but also how to identify risks, care for themselves, and protect themselves when they are paired with SUD patients. Many times, the CNA must sit with the patient for up to 12 hours to ensure the patient remains safe while in the hospital. While a CNA is sitting with a patient, the CNA may experience violence from the patient.

Recently, assaults from behavioral health and SUD patients have been on the rise since the local patient population is increasing. CNAs typically sit with the patients to keep the patient safe, but the patient may become violent. Assaults throughout the hospital have increased and continue to become more violent (nurse informaticist, personal communication, February 15, 2018). Over 60% of all assaults by behavioral health and SUD patients are perpetrated on CNAs (nurse informaticist, personal communication, February 15, 2018). Regrettably, many CNAs state they do not know what to do when a patient becomes violent and they are unsure of how to protect themselves, leaving them vulnerable to violence in the workplace. This evidence-based doctorate of nursing practice project addresses the need for specific substance use disorder education for CNAs who work in the acute care setting.

## Problem Statement

The opioid crisis continues to grow in the United States, creating a strain on the healthcare system and healthcare workers, especially those working closely with these patients, such as the certified nursing assistant. Lack of education related to the opioid crisis and caring for SUD patients, does not foster relationship building or safe patient/staff environments.

# SECTION II

## Needs Assessment

### Substance Use Disorder

Substance use disorder is one of the fastest growing issues in the United States. Nationwide, politicians and local health systems are trying to figure out how to combat the increasing use of illicit drugs. Many drug users have turned to intravenous (IV) substances, such as heroin. Others seek out opioid prescription medications, including Percocet, Vicodin, and Fentanyl. The reason behind the jump in illicit drug use is multifactorial. Many claim over prescribing by physicians has caused the issue, while others claim too many drugs are trafficked into the United States, keeping the price of illegal drugs relatively low (Combating the opioid epidemic: Recommendations of the President's Commission., 2018; Davis et al., 2017). In a rural town of North Carolina, from 2016 to 2017, there was a fourfold increase in people who accidently overdosed (Bordas, 2017). Trends continue to increase, while resources are being depleted to help these individuals. Local hospitals are struggling to figure out how to care for these individuals in the most effective manner. The SUD patient population is extremely worrying because they tend to become aggressive, smuggle items in which can harm themselves and others, and are difficult to communicate with at times. There are some potential solutions to help healthcare workers navigate the rising census of SUD patients.

### Education

Initial and ongoing education is essential for all healthcare workers. Education surrounding new concepts or adding to current knowledge empowers and engages staff. Staff development is one of the items many healthcare workers ask for when surveyed

(Berridge, Tyler, & Miller, 2016). Educational opportunities play a significant role in staff development. Education for certified nursing assistants (CNAs) related to their job increases satisfaction, decreases turnover, and improves perceptions of the patients they care for daily (Berridge et al., 2016).

**Perception**

Many times healthcare team members do not understand their patients, especially related to specific disease processes, such as SUD or mental health disorders (Giacchero Vedana et al., 2017). Staff become more confident in their skills and have better perceptions of patients after they have had education about a specific patient population (Giacchero Vedana et al., 2017). Education changes the perception of staff and helps staff relate to the patient's needs. Staff are more likely to communicate more effectively and more easily develop therapeutic relationships. Communication and building therapeutic relationships are essential when dealing with SUD patients. Substance use disorder patients typically do not easily form relationships, which can hinder recovery.

**Recognition of Changes**

Education about specific populations can decrease harm and improve outcomes. Studies show (De Witt Jansen et al., 2017; Molinari et al., 2016) educating CNAs about disease processes and specific patient populations does increase awareness and reporting. With knowledge, the CNAs are more likely to alert nursing and other healthcare professionals about changes in patients. CNAs spend a significant amount of time with patients and may see minute changes in patients other healthcare team members may not otherwise recognize. Falk, Hult, Hammar, Hopwood, and Abrandt Dahlgren (2017) discussed how many times CNAs are overlooked as part of the healthcare team but have

found their expertise has a significant impact on outcomes and quality of care. When CNAs are empowered to speak up, report, and share information, outcomes improve related to safety of the patient.

## Initial Education

Initial training or minimal requirements of training for CNAs vary widely across the United States. Some states require just 16 hours of training for CNAs, leaving a significant gap in knowledge (Trinkoff, Storr, Lerner, Yang, & Han, 2017). The lack of initial training puts the CNA and patient at risk, due to the CNAs lack of understanding appropriate functions they have related to alerting nurses of potential issues. Education and certification of CNAs usually focuses on basic functions and needs for the patient. Many times, long term care information is provided to the CNA in the initial stages of education and are lacking knowledge of the acute care setting. Additional skills need to be taught to CNAs to function within different settings that may not have been the focus in the initial training (Han et al., 2014). When hours of training and outcomes were calculated, Trinkoff et al. (2017) found increasing hours of initial training improves patient outcomes, mainly in areas such as pain, falls, and depression. CNAs have better understanding of the job and expectations. Hans et al. (2014) found increased hours of initial education increases job satisfaction. More hours of training also improved the perception of a quality education. CNAs feel more confident and prepared to work with different patient populations when they receive more training (Hans et al., 2014). In addition, job satisfaction among CNAs who have more initial training, especially in areas related to work life skills, demonstrate a higher rate of job satisfaction (Hans et al., 2014). Initial training for CNAs is critical, along with providing them the tools they need to

deliver the best possible care. Designing initial training related to drug misuse would set a foundation for staff interacting with a SUD patient population.

## Ongoing Education

Ongoing education for staff ensures the quality of patient care is maintained and improved. The healthcare information is ever changing and requires staff to stay updated with the newest information. While it is important to update staff knowledge, how the information is presented, can also make a difference. PowerPoint presentations can improve knowledge in subjects that individuals have not previously been exposed (Noritz et al., 2019). According to Noritz et al. (2019) PowerPoint presentations in a mixed curriculum boosts the knowledge of the learner. When paired with other educational modalities, retention of information is increased and improved. Furthermore, PowerPoints which have video components or discussion improves participation and retention. Inclusion of other educational modalities, such as gaming, also improves participation and comprehension of newly introduced subject matter.

Escape rooms have become popular in the last few years. Adoption of escape rooms for formal education is growing. Escape rooms entail utilizing puzzles, questions, and clues to help educate students (Eukel, Frenzel, & Cernusca, 2017; Vörös & Sárközi, 2017). Participants in the escape room work through various puzzles and activities, which incorporates different learning styles and skills, ultimately improving the retention of knowledge (Eukel et al., 2017). Individuals who participate in escape rooms as a learning activity respond positively and enjoy having a new way of learning (Vörös & Sárközi, 2017). Incorporating different styles of learning, especially for individuals who have a base knowledge of a subject, helps reengage them in active learning. Different

teaching techniques enhance the learning experience for the student. When teaching staff about substance use disorder, teaching techniques such as PowerPoint and escape rooms should improve retention and engagement.

## Culture and Interdisciplinary Interaction

Changing culture is another element of improving outcomes related to many disease processes. CNAs must sense they are part of the team (Murray, Sundin, & Cope, 2017). A sense of being part of the team fosters the idea the team can work together to solve problems. For example, Page, Marshall, Howell, and Rowles (2018) discussed a plan to have CNAs help with communication plans. These communication plans empowered the CNAs to share their observations and the team worked together on solving problems. Trust within the team helped improve the care of residents in the facility. Culture changes and interdisciplinary interaction could also help the team focus on specific needs of the SUD patient population. Sharing the workload and communicating would decrease harm for the patient and the staff members, while improving safety outcomes.

## Upskilling

In the current healthcare setting, there are expectations of healthcare professionals related to scope of practice. Many institutions want healthcare workers to work to the top of their scope. Historically, blurring of boundaries between advanced practice nurses and physicians, along with nurses and nursing assistants has been challenging. Even today, nurses do not delegate, meaning CNAs do not work to their full abilities. The reason most nurses do not delegate and utilize CNA's skills is out of fear (Pringle, 2017). For example, although placing urinary catheters by CNAs are allowed in most jurisdictions,

CNAs typically do not place urinary catheters (Pringle, 2017). In the case of upskilling, it is important to ensure the individual being delegated a task understands the process or procedure. Upskilling includes teaching CNAs about specific disease processes and skills to recognize changes in patients. CNAs have the skill to recognize changes and alert the appropriate healthcare professional, potentially decreasing the time it takes for nurses to appropriately respond to a patient's change in condition.

## Project Introduction

Gaps in the literature and the necessity for focused education led the formation of the project. When reviewing hospital data related to substance use disorder (SUD) patients, it was realized there was a vulnerable population of healthcare workers who work very closely with SUD patients. CNAs in the system were found to be at the highest risk for assaults regarding the SUD patient due to the close relationship. Typically, CNAs must sit with the patients when the patient has a recent history of substance use.

The chosen population for the project were newly hired CNAs in a rural hospital in the southeast. Current employees were not included in the project. An educational intervention focused on SUD and caring for patients with SUD was implemented to determine if perception of SUD can be changed in the CNA sample group. A one-hour class was taught to the newly hired CNAs during their orientation phase of employment. In comparison, prior to the project, there was no information given to CNAs on how to care for a SUD patient when they were assigned to them as sitters. The goal of the project was to change perceptions of SUD patients in the newly hired CNA.

## Sponsors

The sponsors for this project pertained to the individuals who helped guide and implement the proposed study. In this study, there were several people which helped facilitate the new addiction/substance use disorder education of CNAs. The team consisted of a researcher, program director, and nursing assistant coordinator, along with an executive sponsor from the education department.

A nurse scientist at a rural hospital in North Carolina guided graduate and doctoral students through their programs. The nurse scientist's position included guiding a research council in the facility, which focused on reviewing best practices, guiding research projects, and initiating the internal review process for studies. The nurse scientist's expertise and knowledge assisted with guaranteeing the project stayed on track. In addition, the nurse scientist had influence with many leadership members, both in production and education. These connections decreased potential barriers when implementing the project.

One essential individual to the project was the education program director. The education program director at this rural hospital is over several different programs related to education. These programs include the new residency program, nurse management development, professional governance, and nursing assistant development. Because the Education Program Director managed the nursing assistant development program, it was essential to have buy-in. The educational program for certified nursing assistants in this rural hospital was focused on improving CNA knowledge and involved teaching advanced CNA skills related to urinary catheter placement, oral suctioning, sterile technique, and removal of peripheral intravenous catheters. In addition, the coordinator

taught CNAs to be mobility coaches who could train other staff about lifting equipment, along with providing education for cross training to the health unit coordinator position. The education program director and the CNA coordinator met regularly to review other skills or education to add to the program, which included behavioral health and substance use disorder elements.

The CNA coordinator is the individual who organizes and creates all the education for the nursing assistants at the rural hospital. The CNA coordinator oversees providing education through classroom lectures, online programs, and simulations. Having the CNA coordinator as a sponsor was critical to the project, and she was a close ally in implementing the education related to substance use disorder.

Approval for implementation of new education is required at the highest levels of the education department. The Executive Director of Nursing Professional, Education, and Research must sanction all nursing projects being performed in the facility. The executive director is responsible for nursing education throughout the hospital system. Having the Executive Director of Nursing Professional, Education, and Research as a sponsor helped the implementation process and decreased the chance of barriers during the project. This team of sponsors, which include the executive director, program director, nursing assistant coordinator, and nurse scientist helped guarantee success.

## Stakeholders

Nursing Leadership is an important stakeholder in the certified nursing assistants (CNA's) role. Leadership is responsible for all patient outcomes and quality improvement in the hospital (Murray et al., 2017). Nursing leaders have the unique opportunity to influence staff and motivate staff to create an environment of safe care

(Murray et al., 2017). Building up the knowledge and skills of CNAs is one element of creating such an environment. Leadership's focus on CNA development helps foster a sense of inclusion among the team members, improving care by motivating CNAs to report changes in patients (Falk et al., 2017; Sund-Levander & Tingström, 2013).

The work of a certified nursing assistant (CNA) is delegated, monitored, and assessed by the bedside nurse. Bedside nurses are stakeholders directly impacted by the work of the CNA. Skilled CNAs at the bedside can have a significant impact on outcomes. Building the relationship between the nurse and the CNA is imperative to quality outcomes and safety of patients. Nurses constantly communicate with the CNAs, so the knowledge and ability to notify the nurses of changes directly affects care (Husebø & Akerjordet, 2016).

Physicians are stakeholders to a lesser degree. However, the information provided by the CNAs can change the care significantly. CNAs spend the most time with patients, more than nurses and physicians. The observations by CNAs has the potential to change the direction of nursing and medical care (Husebø & Akerjordet, 2016). Collaboration among the whole care team is crucial to improving patient outcomes. Ancillary team members, such as physical therapists, speech therapists, and respiratory therapists are all stakeholders. A qualified, skilled CNA can alert nurses and ancillary staff of impending medical concerns. In addition, CNAs play an important role in implementing some of the recommendations provided by ancillary staff which include ambulation, providing supplements, and minor wound care (Falk et al., 2017; Page et al., 2018).

Building the CNAs skills and education are vital to improving care and outcomes (Sarre et al., 2018). CNAs are directly affected by this initiative and are the primary stakeholders. Input by the direct care team on needs for education, the best way to educate, and how to build the skills of the CNA team assisted with creating the correct program regarding substance use disorder (SUD). These individuals are closest to the patient and have the potential to report observations in a timely manner if trained appropriately.

Patients are also a stakeholder when it comes to SUD. The perceptions of the team directly affect the care they receive. Education related to SUD has the potential to prepare staff to take care of this patient population, ultimately improving outcomes and decreasing risk.

## Strengths and Weaknesses

Successful implementation of the project solely depends on the strengths and weakness within an organization. In the organization where the implementation of the project occurred, there were several strengths identified which facilitated success. Prior to the project, the hospital already had a CNA focused class which taught specific skills, expanding the practice for the CNAs. Leadership's dedication to furthering individuals' careers spurred the creation of the CNA class. Behavioral health and SUD programs became a focus for leaders over the last few years, opening the opportunity for robust education. Because SUD has become a large issue, resources became available to educate throughout the larger system. Some opportunities for the staff at the facility included access to local conferences, online programs, and reducing cost of care for SUD patients.

Several weaknesses were identified in the facility related to SUD. Training for staff, especially the CNAs, was less than optimal, leading a gap in knowledge in this group. Along with lack of foundational educational components, higher skills including sensitivity training, perception or the SUD population, and recognition training did not exist. Furthermore, staff were not aware of SUD harm reduction measures or hazards regarding SUD patients. These issues are compounded because of decreased funding in the SUD population within the hospital and within the surrounding community. For example, when patients require long term intravenous antibiotics, facilities in the region are not equipped to take care of the patient, increasing the burden on the acute care facility. Although there are weaknesses, proper education at the hospital and community level could improve patient outcomes.

## Resources

Resources for this project were not extensive because the didactic and practical elements had been instituted. Some of the largest resources needed included classroom space, simulation space, and materials needed for presenting, along with materials for surveying staff. Working concurrent to the established program assisted with reducing the need for resources.

One resource required for the project was classroom space. A requirement for all newly hired CNAs was to attend a class which provided education regarding more complex skills, allowing the individual to advance into a patient care technician role. When nursing assistants are hired, they attend a CNA orientation class which teaches the CNAs four skills they can implement when they are on the unit which include urinary

catheter insertion, removing IVs, hanging fluids, and oral suctioning. The goal of the project was to incorporate SUD education to the current class curriculum.

Simulation space was critical to the success of the project. Procurement of the simulation space occurred prior to implementation. Fortunately, the simulation room was reserved for the duration of the project. Resources for the simulation included the items needed, such as a manikin, blankets, and patient belongings, so the CNA could perform on site searches, perform therapeutic communication, and ensure a safe environment.

Presentation equipment was necessary for the didactic piece. The required equipment for the project comprised of a projector and computer for the presentation. This equipment was already in place at the facility and did not require utilizing more resources than those already in place. Materials were the principal resource needed for the project. Utilization of printed surveys required access to a printer and paper resources.

## Outcomes

The goal of the project was to change the perceptions of CNA staff regarding the substance use disorder (SUD) patients they take care of daily. At the time of the project, there had been a significant rise in the drug misuse population, especially patients who abuse IV drugs. According to the nurse informaticist (personal communication, Feb 15, 2018), on average the local rural hospital had approximately 17-20 individuals on an IV drug abuse plan at a time, which increased from 4-6 patients on the IV drug abuse plan during the same time in 2017. Learning about SUD and the root cause for addiction, ideally, the staff would be able to recognize SUD, interact more appropriately with the drug misuse patients, and decrease potential risks for the patients.

Education about this patient population was vital. One of the first things necessary to overcome was the perception staff have about SUD, so staff would be able to effectively take care of the patients. An important aspect of the education was being able to understand the patient's perspective. Learning about the disease also helped the CNAs to recognize patients with SUD. Several studies show CNA education regarding disease process improved recognition and reporting of complications (De Witt Jansen et al., 2017; Molinari et al., 2016; Sund-Levander & Tingström, 2013). An increase in reporting helps improve patient outcomes, due to early recognition.

Interactions with patients are critical to forming a therapeutic relationship. Formation of therapeutic relationships through interactions occurs at all levels of the healthcare team. CNAs are one of the most influential members of the healthcare team, since they spend the most amount of time with the patient throughout the day. Giacchero Vedana et al. (2017) explains, staff who are trained about specific mental health issues, fosters emotional competencies and decreased judgmental attitudes. By recognizing the risk behaviors early and communicating more effectively, CNAs can have an enormous impact on patient outcomes and safety, such as decreased length of stay, decreased aggressive behavior, and improved harm reduction.

## Team Selection

The team chosen for this project ensured the project was successful. The goal was to form a team which was close to the CNAs and the issue surrounding SUD. The team consisted of the CNA coordinator, a nurse researcher, and education staff.

The CNA coordinator collaborated as the practice partner during the implementation of the project. The CNA coordinator was a master's prepared nurse. In

addition, the CNA coordinator's immediate supervisor, which is the program director, was a co-practice partner. The CNA coordinator was responsible for educating the CNAs about higher level skills. Part of the job entailed identifying gaps in knowledge of the CNAs. In the beginning of the year, a survey was sent out to CNAs asking what areas they felt were most important to learn about in their current position. The team members identified SUD as an area of interest. The CNA coordinator assisted with accessing the new hires which already attended class. The CNA coordinator also brought the unique perspective of the CNAs to the education which enhanced the project. Part of the CNA coordinator's job was to ensure the education the CNAs receive is appropriate.

The primary project committee member was a nurse scientist at the rural hospital. The nurse researcher had a doctoral degree in nursing. As a team member, the nurse scientist was able to provide guidance related to statistics and outcomes, along with decreasing barriers which arose in the research project. Projects in the system are typically reviewed by the nurse scientist to ensure there are no conflicts of interest or areas of concern. The nurse scientist assisted with the process of getting the project approved through the Institutional Review Board.

## Cost/Benefit Analysis

Costs for the project were close to budget neutral. Newly hired CNAs had scheduled time on the units along with educational time. One of the classes the newly hired individuals attended as part of the orientation process was the advanced skills class. The class was comprised of education related to urinary catheter insertion, oral suctioning, and removal of peripheral intravenous catheters. New hires completed a set of modules prior to class and then attended a six-hour class. In the class, there was a

didactic component and a simulation component. Although six hours are scheduled for the class, the class typically lasted approximately four hours. Fortunately, six hours were budgeted for the class, allowing for the additional SUD content to be added to the curriculum without having significant effects on the budget. These hours were already budgeted into the amount of time it takes to orient CNAs to the hospital. No additional costs were incurred from the budgeted cost. However, CNAs were hourly employees and the additional time in class did create an additional hour of paid time for the individuals.

Benefits of this project were multi-faceted. Increasing the knowledge of the CNAs who work with SUD patients potentially increased the comfort of the CNAs. Giacchero Vedana et al. (2017) explained when healthcare workers are educated about disease processes, the staff are more confident and show positive attitudes about specific disease process, especially mental health. Another potential benefit of targeted education was to improve retention. Staff development opportunities, which foster self-empowerment, help decrease turnover (Berridge et al., 2016). Finally, increased education has shown to improve patient care through earlier recognition of deterioration in patients. The positive effects of early recognition include decreased lengths of stay and harm reduction (De Witt Jansen et al., 2017; Sund-Levander & Tingström, 2013).

## Scope of Project

The opioid epidemic is pervasive and continues to grow each year. An increase in drug misuse has strained our healthcare system and devastated resources locally and regionally. Unfortunately, the increase in drug misuse has not done anything to decrease the stigma related to substance use disorder (Buchman, Leece, & Orkin, 2017). Negative perceptions of this patient population are rife throughout our society and is seen as a

preventable disorder. More importantly, many healthcare workers have poor attitudes towards addiction and treatment (Fenster & Monti, 2017; Raistrick et al., 2015). Changing perceptions of healthcare workers will be an uphill climb.

These negative perceptions have a potential to cause harm to the patient. Decreased communication among the team and lack of recognizing changes increases the chance of a patient harming themselves or others. Compounding the issue, staff do not feel equipped to handle patients with SUD, causing a deficit in care because of a lack of knowledge (Gordon & Harding, 2017). Lack of education across the healthcare worker spectrum has left significant gaps in care. It is essential for staff at the bedside, such as nurses, nursing assistants, and ancillary staff to receive education related to drug misuse patients.

# SECTION III

## Goals, Objectives, and Mission Statement

### Perceptions of Substance Use Disorder

Perceptions of substance use disorder (SUD) continue to be a barrier to implementing best practice and creating programs which help sufferers. Unfortunately, due to the stigma of SUD, many facilities and organizations do not want to increase funding for this patient population, even though the problem is not foreseen to abate (Fenster & Monti, 2017; Vashishtha et al., 2017). Many local governments see this epidemic as a nuisance. Lack of initial interventions, such as needle exchanges, proper outpatient care, and harm reduction programs only increase cost over time (Dubois, 2017). Furthermore, overdoses and death are becoming more frequent due to the lack of funding and assistance, compounding the problems within the SUD community (Evans, Higgins, & Stanford, 2019).

Inpatient and outpatient healthcare facilities are taking the brunt of crisis. Due to the lack of funding over the last decade, many facilities are dealing with numerous SUD patients and mental health patients, which tend to overlap in needs. Healthcare facilities have had to adapt to the new landscape, expanding services for SUD and behavioral health patients. In the acute care setting, the incidence of drug misuse has increased over the last several years. Locally, the identification of intravenous (IV) drug users in the inpatient setting has quadrupled compared to the prior years (Bordas, 2017). There are identified interventions related to education in the literature which show perceptions of disease processes can be changed. Implementation of educational programs for all levels of healthcare workers have shown early recognition can decrease harm for the patient (De

Witt Jansen et al., 2017; Molinari et al., 2016). The purpose of this project was to change perceptions about SUD patients.

## Goals

The primary goal of this evidence-based project was to determine if perceptions about drug misuse disorder can be changed through education in the newly hired certified nurse assistant (CNA) group. However, when it comes to perceptions around addictions, there are several domains which must be considered. According to Ayu, Dijkstra, Golbach, De Jong, & Schellekens (2016) there are emotional, demoralization, illness coherence, consequences, timeline chronic, personal control, timeline cyclical, and treatment control. These eight domains are identified in the Illness Perception Questionnaire-Addiction. A secondary goal was to increase the knowledge base of CNAs regarding SUD. Increasing knowledge among CNAs should improve the perception of the disease process related to SUD. Improvement in perceptions would correlate with improving knowledge. Tertiary goals that may be measured in the future would be to determine if this knowledge and change of perceptions improves patient outcomes by increasing patient satisfaction, cultivating harm reduction techniques, and early recognition of escalation in behavior.

Goals of the project:

- Improve CNAs' perceptions of substance use disorder by implementing an intervention of education.
- Change CNAs' perceptions related to the eight domains identified in the Illness Perception Questionnaire, which include emotional representations,

demoralization, illness coherence, consequences, timeline chronic, personal control, timeline cyclic, and treatment control.

## Mission Statement

This project aims to positively change perceptions and increase knowledge regarding substance use disorder for newly hired CNAs. The eight domains identified in the Illness Perception Questionnaire will provide an underpinning for substance use disorder education. This education will provide a framework CNAs can use to improve care while working with patients suffering from substance use disorder.

# SECTION IV

## Theoretical Framework

## Health Belief Model and Peplau

In the 1950s, social psychologists Hochbaum, Rosenstock, and Kegals, worked to create a theory related to health behavior. The original interest and funding came from the United States Public Health service, which wanted to know why people do not seek preventative services (Glanz, Burke, & Rimer, 2018). Why people decide to participate in a program or not was the research question the team wanted to answer. One hypothesis was that people questioned the likelihood of falling ill from a disease, along with the efficacy or benefits of treatment, which determined if they would act (Glanz et al., 2018). For example, programs may offer free services for diagnosis or prevention, however, at times individuals will not take advantage of the free service. Over the years, the original theory was adapted and now has six recognized constructs.

All the Health Belief Model constructs relate to perception or opinions related to the disease process. Perceived susceptibility is the first of the main constructs, which explains how likely a person is to believe they will get a condition or disease (Glanz et al., 2018). The application of this construct is to identify risks in the population and the ability to change perceptions of susceptibility regarding a person's behaviors. Perceived severity of a condition is the idea where a person may or may not know the significance of a disease and the potential risks it imposes (Glanz et al., 2018). Applied, this construct would warrant questioning the person about the condition and determine if they understand the seriousness of a disease. Perceived benefits become more complicated in the model. These perceived benefits comprise of a person understanding the efficacy of

treatments, and the proposed treatment will decrease risk or susceptibility (Glanz et al., 2018). Overcoming perceived benefits may consist of defining specific actions must be taken, along with the positive anticipated outcomes. Perceived barriers pertain to the potential costs, either physical or mental, and if they balance out with the potential benefits (Glanz et al., 2018). Some of the actions to overcome potential barriers include encouraging, motivating, and supporting. Cues to action encompass several different external factors or reminders. Some of these cues to action may include advertisements, discussion with a healthcare provider, or pamphlets about specific tests (Glanz et al., 2018). Self-efficacy is the idea where someone has the ability and confidence to take the appropriate action (Glanz et al., 2018). Support and guidance during this phase are vital to success. Figure 1 is a conceptual schematic of the Health Belief Model showing how all these constructs are interrelated. A Conceptual Theoretical Empirical (CTE) structure was created to help guide the project (Appendix A).

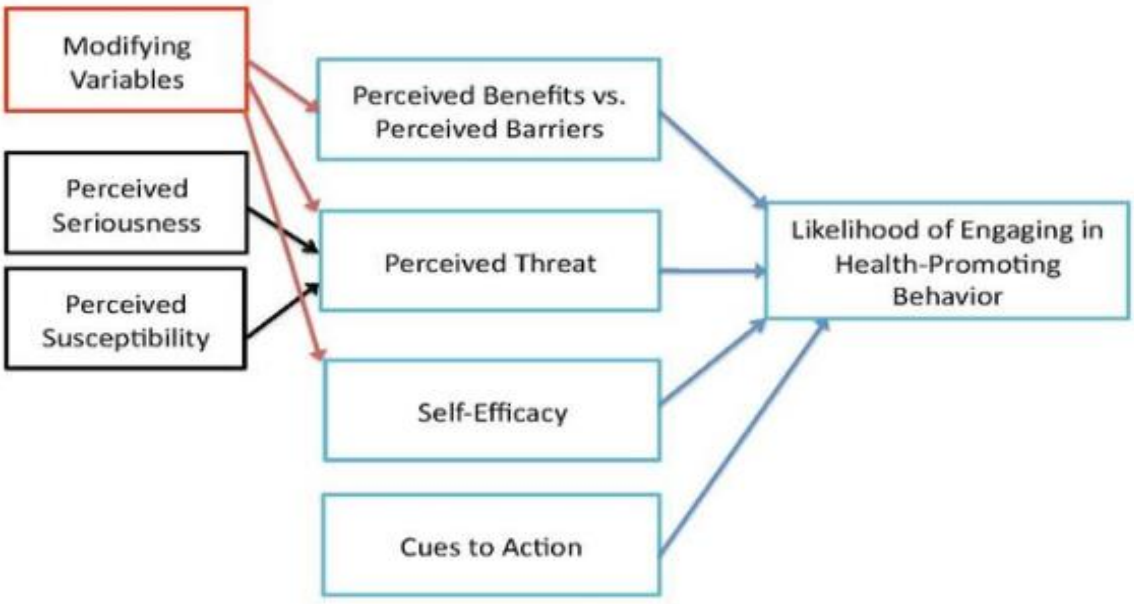


*Figure 1.* Health Belief Model Schematic.

One element the health belief model does not address is the relationship with the patient. Peplau's Theory of Interpersonal Relationships explains the need for a connection between healthcare worker and patient to foster healthy outcomes.

Peplau's Theory of Interpersonal Relationships is based on Heldgard Peplau's background in psychiatric nursing (Peplau, 1991). Peplau's theory is a middle range theory which expands on previous theories, such as Harry Stack Sullivan's Theory of Interpersonal Relationships (Peplau, 1991). Peplau (1991) explains it is important for a healthcare worker to develop an interpersonal relationship with the patient, which helps with healing. There are four phases to the interpersonal relationship.

Orientation is the first phase Peplau (1991) discusses in her theory. The orientation phase is when the problem is defined, the client and the healthcare worker are strangers, and the client shares past experiences (Peplau, 1991). According to Peplau (1991), it is essential to not have bias in this phase and throughout the process of building a relationship; it is fundamental in creating a solid relationship with the patient. In the orientation phase, the healthcare worker's past experiences, ideas and values, along with the patient's race, beliefs, and experiences may influence relationship cohesiveness (Peplau, 1991). Figure 2 illustrates the interconnectedness of the patient and nurse's relationship. The identification phase is where the patient starts to recognize the need for treatment and begins to have decreased feelings of futility or powerlessness (Peplau, 1991). Peplau (1991) describes the exploitation phase as the time when the patient seeks attention, independence varies, and the patient expresses interest in healing self. Resolution is the last phase, which is closure for the relationship which was built. However, this must be handled gently due to the possibility of attachment during the

relationship (Peplau, 1991). The Health Belief Model and Peplau's Theory of Interpersonal Relationships apply to the proposed project related to perception of patient care technicians.

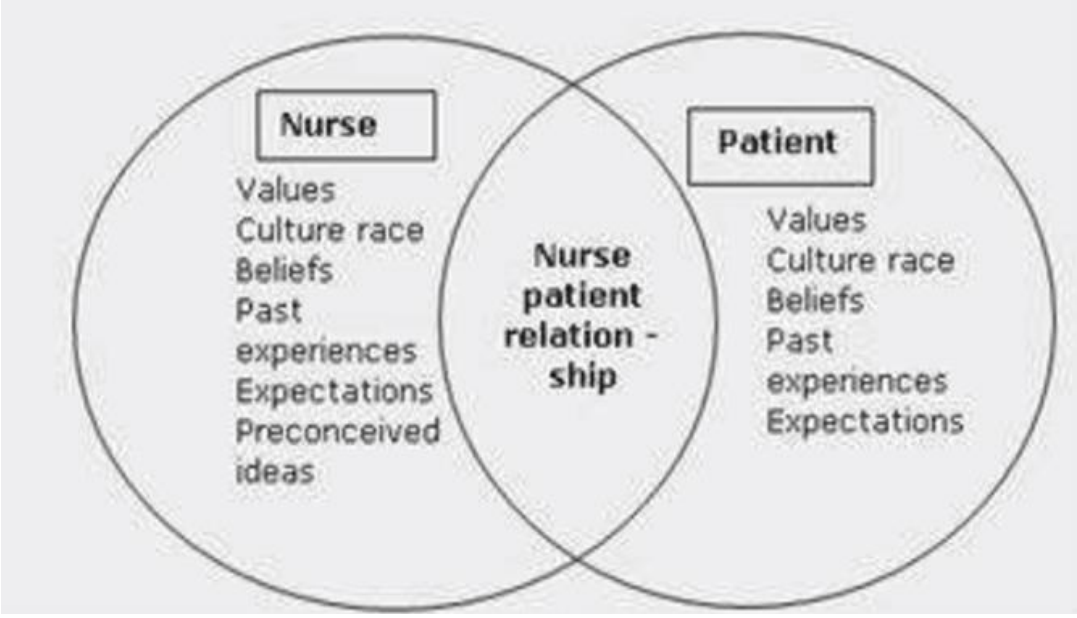


*Figure 2.* Peplau's Theory of Interpersonal Relationship. Factors influencing orientation phase.

**Application of Theory**

The Health Belief Model and Peplau's Theory of Interpersonal Relationships have guided this project. In this project, the use of the Illness Perception Questionnaire (IPQ) is built on the concepts found in the health belief model. There are five major components related to the questionnaire, which include identity, cause, timeline, consequences, and cure control (Weinman, Petrie, Moss-Morris, & Horne, 1996). These directly correlate with the precepts found in the health belief model. Identity, consequences, and cause are intertwined with the health belief model concepts of

perceived susceptibility and perceived severity. Timeline and cure control are related to the concepts of cues to action and self-efficacy within the Health Belief Model.

The premise of this project was to evaluate the perceptions of the certified nursing assistant (CNA) related to the substance use disorder patient population. CNAs have taken the IPQ before and after an educational intervention to determine if perceptions can be changed through direct educational intervention. Understanding the disease process and expected outcomes, CNAs will be able to have more compassion and comprehension of the patient's needs. Changing perceptions of the CNA concerning substance misuse may help foster relationships by reducing biases.

Peplau's Theory of Interpersonal Relationships describes the need for healthcare workers and patients to build a relationship (Peplau, 1991). In the first phase of orientation, according to Peplau (1991), to build a relationship, the healthcare worker should reduce biases by understanding what the patient is experiencing. Although the relationship of the CNA and the patient will not be directly measured, there are studies showing improvement in patient outcomes when the staff are educated on a specific disease or process (Fenster & Monti, 2017; Gordon & Harding, 2017; Molinari et al., 2016; Russell, Ojeda, & Ames, 2017). Utilizing both the Belief Health Model and Peplau's Theory of Interpersonal Relationships will help improve the knowledge of substance use disorder and the relationships the CNA can form with the patients.

# SECTION V

## Work Planning

### Timeline

A Work Breakdown Structure (WBS) was created to ensure all elements of the project were adhered to during the process (Appendix B). Assessment, planning, implementation, monitor/control, and evaluation are the five categories the team identified as necessary. Each category contained subcategories which further explained smaller steps in the process.

In the assessment of the project, the project leader performed a literature review. The first part of the literature review identified the problem. After problem identification, the project leader completed a needs assessment, which recognized there was a concern around CNA understanding of substance misuse disorder. To complete the literature review, a search was conducted to determine solutions to the problem.

The second phase of the WBS comprised of the elements in the plan. Goals, objectives, and the mission statement were the first part of plan to ensure there was a framework for the project. Identification of the project team and the initial meeting with the team were the next identified steps. The last part of plan in the WBS was to develop a structure and outline of the project. After the plan, implementation was the next phase.

Implementation consisted of three sub phases. Implementation of the project plan included the timeline and subcategories related to supplies and resources (Appendix C). The educational component was part of the implementation plan, which comprised of the one-hour class. While the project was in the education phase, the team would have to

meet frequently to assess the implementation process and was added to the WBS to ensure the team stayed on task.

Monitors/Control were essential to the success of the project. The task of monitoring the implementation strategy was added as an essential part of the monitoring process, to ensure the project stayed on track. Control of schedule and timeline guaranteed the team reviewed the goals during the process. In this phase, monitoring surveys and data was essential to keeping the information safe and secure throughout the project. Costs were continually a concern and was the last part of the monitor and control phase.

Evaluation was the final phase of the WBS, which brought the project to a conclusion. In this phase, the project leader entered the data into Statistical Package for Social Sciences (SPSS) version 24 to analyze the information received from the surveys. The second step comprised of data verification ensuring the information was entered in the statistical software correctly and accurately. After verification, the project leader performed an evaluation of the data. In this phase, trends, statistical significances, and anomalies were identified. When the evaluation was completed, a final report was written about the findings.

# SECTION VI

## Evaluation Planning

### Inputs

A logic model was utilized for this project (Appendix D). There are several inputs to consider. Recently, there has been an increased population of substance use disorder (SUD) patients in the acute care setting. In a local rural hospital, patients with intravenous drug abuse has increased from 4-5 patients per day up to 20-30 patients per day. These numbers do not reflect all patients with SUD but is an indicator of a larger problem. With the increasing population of SUD patients, escalating behaviors of SUD patients is a risk. Unfortunately, certified nursing assistants (CNAs) may not always be aware of early signs of aggression and escalating behaviors. Training for many healthcare workers, including CNAs, is lacking. Because there is a lack of education related to the SUD patients, CNAs are at risk for injury. In addition, the CNAs are not able to effectively build rapport with the patients due to the lack of understanding of the SUD disease process.

### Outputs

Education is the output in the logic model for this project along with a pre and post IPQ-A survey. Education focuses on SUD disease processes, disease progression, and disease outcomes. A portion of the education was presented in PowerPoint format which includes information about SUD. The practical intervention was an escape room, which allows participants to interact with the information given to them in the PowerPoint portion of the education to reinforce and build on concepts. Perceptions of

SUD are measured by the IPQ-A survey. The IPQ-A survey was filled out by the participants before and after the intervention.

Newly hired CNAs were the population of focus for this project. CNAs receive orientation when they begin in the facility. During this time, the CNAs receive education and clinical experience to acclimate to the acute care setting. The 60-minute education for SUD was integrated into the existing CNA orientation class, along with the IPQ-A survey.

## Outcomes/Impact

Measurement of outcomes came from the results of the IPQ-A survey. The goal was to improve perceptions of SUD patients among newly hired CNAs. Expectations for the pre and post IPQ-A survey was to see a difference before and after the intervention.

The IPQ-A questionnaire measures eight different domains relevant to perceptions of SUD. Emotional representations, demoralization, illness coherence, consequences, timeline (chronic and cyclical), personal control, and treatment control were the domains in the questionnaire. Utilization of Wilcoxon signed rank test assisted with determining if there were differences between the pre and post survey. The goal in comparing groups before and after was to identify change in perceptions of SUD. Descriptive statistics were reviewed and reported after completion of the project.

Medium- and long-term outcomes go beyond the project scope. Immediate improvement of perceptions related to SUD were expected. However, longer term goals would include assimilating of the new knowledge and perceptions into practice at the bedside. With assimilation, the expectation would be that CNAs would foster therapeutic

relationships with SUD patients while they were in the acute care setting. Integration of new skills would potentially improve care, through respect and relationship building.

## Assumptions

There were several assumptions related to the project. Healthcare workers have a skewed understanding of substance use disorder (Giacchero Vedana et al., 2017). These misperceptions are found through the healthcare community and potentially have a negative impact on care and outcomes. Education can improve healthcare worker's perceptions of SUD patients. Relationship building is an important part of the care in the acute care setting, especially with patients who maintain an inpatient status for an extended period of time due to care needs. It is assumed that improving CNAs perceptions of SUD patient will foster therapeutic relationships. This assumption follows Peplau's theory of interpersonal relationships where both the patient and healthcare worker can form a therapeutic relationship if there is understanding.

## External Factors

Some external factors may not help with the current concerns with SUD and changing perceptions. Lack of access to SUD programs in the community causes many of these individuals to be treated in an acute care setting, rather than an appropriate facility (Andrews et al., 2015). In addition, when they do arrive at the hospital, many of the patients have infections which must be treated because they did not have the proper resources to take care of themselves prior to admission. Local facilities have increasing populations of SUD patients coming into their facilities. As the population increases, staffing ratios are challenged due to the increased demands and high observation needs for this patient observation.

## Population Sample

The target population was specifically chosen due to an annual appraisal by the education department at the facility. Many CNAs surveyed at the hospital stated they did not have enough training around caring for behavioral health and substance use disorder patients. Newly hired CNAs with and without prior experience were included in the sample group. Current CNAs within the facility were not included in the project. The group was a convenience sample of individuals who were required to complete the CNA classes prior to the end of orientation. No other selection criteria were utilized for selection of participants.

## Illness Perception Questionnaire-Addiction

The goal of the project was to determine if there were differences in perception of substance use disorders by newly hired CNAs before and after an educational intervention. The Illness Perception Questionnaire-Addiction (IPQ-A) was the chosen tool for the assessment portion of the project. Originally, the IPQ tool was created for patients suffering with chronic diseases to determine their perceptions of the illness (Ayu et al., 2016). A team of researchers adapted the tool to determine the perception of illnesses by healthcare workers (Ayu et al., 2016). Internal reliability was acceptable to good, ranging from a Cronbach's alpha of .53 to .88, alpha was set at greater than or equal to 0.5, in line with previous studies related to the tool. Ayu et al. (2016) determined the tool was valid to measure healthcare professionals' illness perception of addiction.

In the IPQ-A, there are eight total domains with 37 Likert scale items. Each domain focuses on a different element of addiction: emotional representation, demoralization, illness coherence, consequences, timeline chronic, patient control,

timeline cyclical, and treatment control. These domains contain three to seven related items. The Likert scale ranges from one to five. One represents strongly disagree, while five represents strongly agree. Four items in the illness coherence domain are reversed scored.

# SECTION VII

## Implementation

Preparation and implementation of the project occurred from November of 2018 to March of 2019. Prior to beginning implementation, it was essential to ask permission to utilize the Illness Perception Questionnaire-Addiction (IPQ-A). Permission to use the questionnaire for educational purposes was granted by the original researchers. The IPQ-A did remain the same as originally published to maintain validity and reliability. Once the primary investigator received the permission to utilize the chosen questionnaire, approval from the Internal Review Board (IRB) of the university were required to implement the project.

Implementation of the project occurred over an eight-week period in a rural regional hospital in the southeastern United States. The target audience was newly hired certified nursing assistants (CNAs) at a local hospital. Each CNA in the facility must complete a class that gives them four skills from the CNA II role. This facilities' class is labelled as a CNA skills class in its learning management system. The Board of Nursing in this region allows facilities to train CNA staff above and beyond initial training and certification. Skills that are permitted come from the CNA II curriculum and must be monitored and taught by the facility. CNA staff are taught in this class by different modalities which include simulation and didactic components. Class size varied from each session, but typically comprised of about eight participants. The project and education related to perceptions of substance use disorder (SUD) was added to the class schedule during the two-month period during the project implementation. Each participant completed a consent prior to participating in the project.

Consents were given to each participant at the beginning of each class. The primary investigator would provide each participant with a manila folder that contained the consent along with the survey information. Participants were instructed to remove the white form with the consent information from the manila folder. As they were removing the white form from the folder, the primary investigator verbally explained the reason for the project and the contents of the folder. Once the participants read the consents, everyone signed the document and handed it in to the instructor to be placed in a separate folder from the folders that the participants had to ensure surveys could not be traced to the individual that signed the consent. Separating these documents was essential in providing confidentiality to the participants. Individuals were able to decline the participation in the survey, but did need to complete the educational component regardless. Once the individuals signed and dated the informed consents, the participants were instructed to the next steps of the study.

Everyone in the study had manila folders with color coded forms. The forms included in the folder were a white form which was a consent, as previously mentioned, along with a yellow form and a green form. These yellow and green forms contained the survey information. Each yellow form had the IPQ-A survey and was identified as the pre-survey, while the green forms had the IPQ-A and was identified as the post-survey. Participants were invited to remove the forms from that manila folder and to complete the survey on the yellow form prior to any class instruction that was to follow. The instructor gave the participants time to finish the survey. Once the survey was completed by the individuals, the yellow form was added back to the folder. The green survey remained outside of the folder for later use after the activities related to substance use disorder.

Following survey completion, class proceeded as usual with some simulation sign off for CNA skills.

After some initial simulation time, the primary investigator taught the substance use disorder didactic portion of the study. A PowerPoint presentation contained information about defining, identifying, and understanding substance use disorder. In the presentation, national, local, and hospital statistics were presented. In addition, a discussion of effects on the brain and causes of substance use disorder were include in the 30-minute presentation. At the end of each presentation, there was open discussion regarding perceptions and clinical boundaries related to substance use disorder patients. The instructors and the primary investigators spoke about personal experiences. During the final discussion, the participants also discussed experiences they had while working with the substance use disorder acute care population. Once the presentation was complete, the participants and instructors would move to the simulation laboratory to complete the other CNA components. Students would also participate in the second phase of education for substance use disorder in the escape room.

The simulation portion of the CNA class included oral suctioning, use of oxygen, intravenous catheter removal, and insertion of urinary catheters. Every participant must complete the simulation skills correctly before moving on to the next task or skill. Once these skills were completed and signed off by the instructors, the escape room was set up for the participants.

A simulated patient room was utilized for the escape room element of the study. Prior to utilizing the space as a simulation lab, the area was an old nursing unit. The room and equipment in the space resembled other nursing units throughout the hospital,

providing the participants with a real-to-life scenario and space. Each member in the room had to participate in the activity. As a team, the participants had to answer 12 multiple choice questions related to substance use disorder. Some of the questions reviewed the information that was presented in the initial education, while other questions contained information about statistics. After the team would get a correct answer, they would receive a puzzle piece. Along the way, the participants also identified potential risks to themselves and to patients. Some identified risks included call bells, which can be used as weapons, and hiding spaces such as trash cans or glove boxes. To leave the space, or escape, the participants had to put the puzzle pieces together and read the message. When the team was able to put the puzzle together, it read "Keep Hope Alive." The message introduces the Holistically Oriented Personal Experience (HOPE) class offered by the facility. If interested, the participants can go to the HOPE class to get more information about substance use disorder and behavioral health patients. HOPE class focuses on clinical boundaries, trauma informed care, and resiliency. Activities in the HOPE class facilitate self-awareness and awareness of patient concerns. Once the HOPE class was explained to the individuals, the team moved to the classroom setting to finish out the day. On return to the classroom, the primary investigator requested that all participants fill out the green post-survey. During this time, the primary investigator would leave the room. After all participants completed the survey and returned it to the folder, the instructor collected all the manila folders to ensure confidentiality was maintained during the process. The surveys were removed from the folders in a secure area and maintained until the data was analyzed. Both the pre-survey yellow form and

post-survey green form were stored as pairs for later comparison. All consent forms were placed in a separate folder in the same secured place.

# SECTION VIII

## Interpretation of the Data

The focus of this project was to determine if CNA perceptions of substance use disorder can be altered utilizing an educational offering. When reviewing the literature, it became apparent there was a significant need to educate CNAs about disease processes and patient dynamics warranting the necessity for the project. The literature review revealed a tool which measures the perception of addiction by healthcare workers termed the Illness Perception Questionnaire-Addiction (IPQ-A). From the questionnaire, two educational components were created including a didactic component and a practical component consisting of an escape room. Each participant completed the IPQ-A prior to class and immediately following the instruction to capture changes in perceptions of substance use disorder. Statistical analysis of the results occurred after the completion of all scheduled classes utilizing SPSS version 24.

## Sample Characteristics

Participants in the project were newly hired CNAs to the acute care areas within the timeframe of the project. This convenience sample consisted of 38 individuals. Demographics were not included in the survey of the participants with no breakdown for male/female, educational level, experience or age. Although demographics were not included, the group represents the typical CNA hire within the hospital.

## Major Findings

The IPQ-A tool utilized pre and post intervention to measure the change in perception of substance use disorder. Pre and post responses on the IPQ-A were analyzed with SPSS version 24. Missing values were excluded from the analysis.

Internal consistency of each domain in the IPQ-A was assessed by utilizing the Cronbach's coefficient. A Cronbach's alpha of greater than 0.5 was used to determine internal consistency, aligning with the original researchers' standard. The totals for this study were Cronbach's $\alpha = .561$ for the pre survey and $\alpha = .854$ post survey. Only one domain did not have internal consistency in the post survey, treatment control $\alpha = .382$ (Table 1).

Table 1

*Summary of Internal Consistency*

| Cronbach's alpha | Pre | Post |
|---|---|---|
| Emotion Representations | .776 | .879 |
| Demoralization | .535 | .745 |
| Illness Coherence | .813 | .823 |
| Consequences | .670 | .973 |
| Timeline Chronic | .814 | .852 |
| Personal Control | .620 | .626 |
| Timeline Cyclical | .697 | .784 |
| Treatment Control | .743 | .382 |
| Total | .561 | .745 |

IPQ-A is a questionnaire which measures healthcare workers' perception of addiction. The tool consists of a 37-item Likert scale self-assessment. These 37 items are classified in eight different domains including emotional representations, demoralization, illness coherence, consequences, timeline (chronic and cyclical), personal control, and treatment control. Each of the domains were analyzed to determine differences between the pre and post data.

Wilcoxon Signed-Ranks Test was utilized for analysis of the Likert scale items. A non-parametric methodology utilizing Wilcoxon Signed Ranks Test was the most appropriate statistical analysis process due to the ordinal nature of the Likert scale data,

rather than the paired t-test (Argyrous, 2014). The items were dependent pre/post data points.

The descriptive statistics demonstrated there were differences of CNA perceptions in four of the eight domains between the pre and post questionnaire (Table 2 and Figure 3). The Wilcoxon Signed-Ranks Test indicated that the median post-test ranks in the emotional representation domain, *Mdn = 5.00*, were statistically significantly different than the median pre-test ranks, *Mdn = 4.83*, *Z* = -2.041, *p* = .04. Median post-test ranks in the illness coherence domain, *Mdn = 4.00*, were statistically significantly different than the median pre-test ranks, *Mdn = 3.60*, *Z* = -4.242, *p* < .001. Furthermore, the Wilcoxon Signed-Ranks Test indicated that the median post-test ranks in the timeline chronic domain, *Mdn = 4.67*, were statistically significantly different than the median pre-test ranks, *Mdn = 3.33*, Z = -4.578, p < .001. Median post-test ranks in the timeline cyclical domain, *Mdn = 4.38*, were statistically significantly different than the median pre-test ranks, *Mdn = 4.00*, Z = -2.618, *p* = .009.

Four out of eight domains in the IPQ-A were found to not have differences in CNA perceptions of substance use disorder between the pre and post questionnaires (Table 2 and Figure 3). Median post-test ranks in the demoralization domain, *Mdn = 1.29*, were not statistically significantly different than the median pre-test ranks, *Mdn = 1.29*, *Z* = -0.173, *p* = .863. The Wilcoxon Signed-Ranks Test indicated that the median post-test ranks in the consequences domain, *Mdn = 5.00*, were not statistically significantly different than the median pre-test ranks, *Mdn = 4.80*, *Z* = -0.67, *p* = .503. Additionally, Median post-test ranks in the personal control domain, *Mdn = 4.00*, were not statistically significantly different than the median pre-test ranks, *Mdn = 4.25*, Z = -

1.637, $p = .102$. The Wilcoxon Signed-Ranks Test indicated that the median post-test ranks in the treatment control domain, *Mdn = 3.33*, were not statistically significantly different than the median pre-test ranks, *Mdn = 3.33*, Z = -0.319, $p = .750$.

Table 2

*Descriptive Statistics and Comparison of Levels (Pre & Post Intervention)*

| Domain | Evaluation | Mean | Median | Z Score | *p*-value |
|---|---|---|---|---|---|
| Emotional Representations | Pre | 4.58 | 4.83 | | |
| | Post | 4.72 | 5.00 | -2.041 | .04* |
| Demoralization | Pre | 1.36 | 1.29 | | |
| | Post | 1.36 | 1.29 | -0.173 | .863 |
| Illness Coherence | Pre | 3.49 | 3.60 | | |
| | Post | 4.08 | 4.00 | -4.242 | .000* |
| Consequences | Pre | 4.72 | 4.80 | | |
| | Post | 4.70 | 5.00 | -0.67 | .503 |
| Timeline Chronic | Pre | 3.31 | 3.33 | | |
| | Post | 4.26 | 4.67 | -4.578 | .000* |
| Personal Control | Pre | 4.23 | 4.25 | | |
| | Post | 4.06 | 4.00 | -1.637 | .102 |
| Timeline Cyclical | Pre | 3.96 | 4.00 | | |
| | Post | 4.33 | 4.38 | -2.618 | .009* |
| Treatment Control | Pre | 3.39 | 3.33 | | |
| | Post | 3.33 | 3.33 | -0.319 | .750 |

*Significant at .05 level

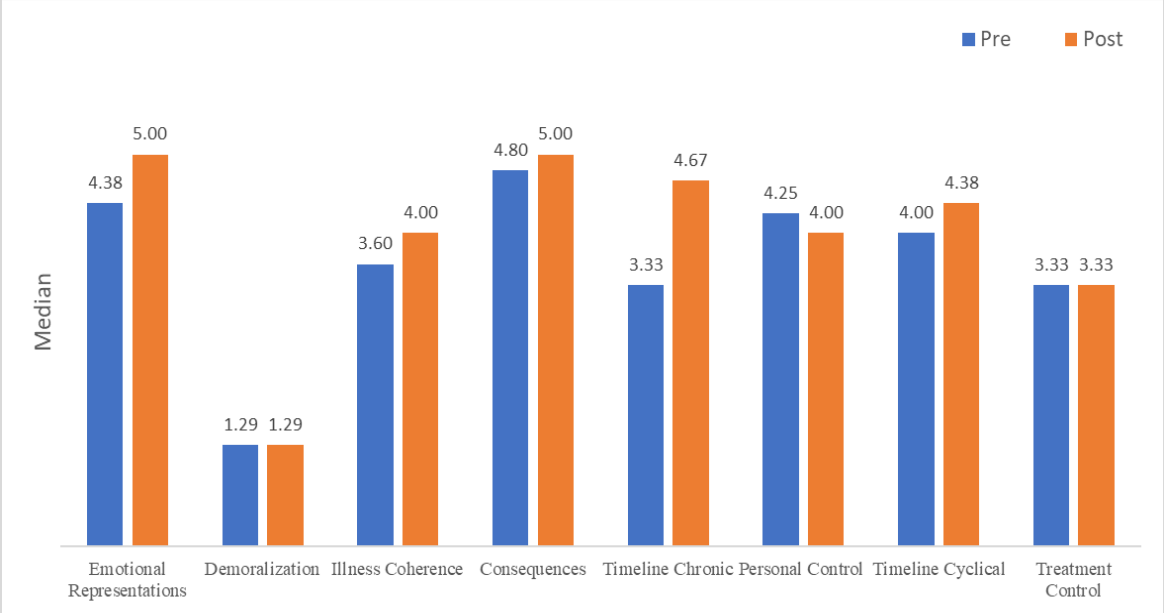


*Figure 3*: Domains & Medians Pre & Post Intervention

## Implications of Findings

The project's goal was to determine if an educational intervention could change CNAs' perceptions of substance use disorder. An educational intervention was employed to potentiate changes in perceptions of SUD. Classes were constructed of 30-minute didactic portion and a 30-minute practical portion which included an escape room component. Incorporating the education into an existing program assisted in seamless execution. Specialized education regarding drug misuse, care for the SUD population, and the disease characteristics for the CNAs did produce differences in perception of the SUD patient population. The evaluation tool utilized for this study was the IPQ-A questionnaire consisting of eight different domains, testing specific perceptions related to SUD. Analysis showed there were significant differences related to the perception of substance use disorder in four out of eight domains pre and post intervention. Differences in perception varied among the domains in the survey.

Historical use of the Illness Perception Questionnaire (IPQ) was to assess patient's perceptions of their own disease process. Over time, researchers adapted the questionnaire to assess the perceptions of healthcare workers about specific diseases. In the study assessing healthcare worker's perceptions of addiction, the reliability coefficient Cronbach's Alpha was cited to be moderate for the tool. For this questionnaire, a Cronbach's Alpha greater than .5 was accepted as reliable. The overall internal consistency was also moderate in this project (Cronbach's alpha = .561 for pre and .745 for post evaluation. The reliabilities were good for seven out of the eight domains, ranging from $\alpha = .535$ to $\alpha = .973$. Reliability lacked in the treatment control domain post evaluation (Cronbach's alpha = .382).

Participants in the study did experience differences in perception of substance use disorder. Four domains were significantly different in the pre and post evaluation. Post-test ranks for emotional representation (*Mdn* = 5.00) were significantly higher at .05 level ($p = .04$) than the pre-test ranks (*Mdn* = 4.83, $Z = -2.041$). The emotional representation domain relates to the perception of how an individual would feel if they were suffering from the illness. In this case, individuals shifted their perception in post survey agreeing they would feel more anxious, afraid, and upset if they experienced SUD post intervention.

In the illness coherence domain, items relate to understanding the disease process and making sense of the disease. Post-test ranks for illness coherence (*Mdn* = 4.00) were significantly higher at the .05 level ($p < .001$) than the pre-test ranks (*Mdn* = 3.60, $Z = -4.242$). Post intervention participants were more likely to agree they understood SUD.

The timeline chronic domain refers to the length of time a person may suffer with the disease, in this case substance use disorder. Post-test ranks for timeline chronic (*Mdn* = 4.67) were found to be significantly higher at the .05 level ($p < .001$) than the pre-test ranks (*Mdn* = 3.33, *Z* = -4.578). A significant difference in perception occurred for timeline chronic domain. Participants agreed more post intervention that individuals suffering from SUD would have SUD throughout the patient's life.

Timeline cyclical was the fourth domain to have statistical significance post intervention. Post-test ranks for timeline cyclical (*Mdn* = 4.38) were found to be significantly higher at the .05 level (p = .009) than the pre-test ranks (*Mdn* = 4.00, *Z* -0.319). Perceptions of how SUD cycles and the unpredictability of SUD changed significantly post intervention. Participants agreed more post intervention that SUD is unpredictable, and the disease comes and goes in cycles.

Differences were not found in four of the eight domains, including demoralization, consequences, personal control, and treatment control. Demoralization items pertain to perception of the patient's ability to change the course of the disease. Long standing beliefs about SUD or experience with individuals may play a role in staff not perceiving the ability to change the course of SUD.

The consequences domain list statements around financial consequences, difficulties for people around SUD patients, and effects the disease has on the way people see individuals from SUD. There was a high level of agreement to these statements in the pre-test ranks (*Mdn* = 4.80) and the post-test rank (*Mdn* = 5.00, *Z* = -0.67, p = .503). Perceptions persisted pre and post intervention related to the consequences of substance use disorder.

In the personal control domain, the IPQ-A explores perceptions of personal control of SUD individuals. Pre (*Mdn* = 4.25) and post (*Mdn* = 4.00, *Z* = -1.637, *p* = .102) survey results showed no difference in perception for personal control among the newly hired CNAs. The CNAs agreed pre and post survey that patients with SUD had the power to influence outcomes.

The perceptions of treatment control results were not significant before (*Mdn* = 3.33) and after (*Mdn*= 3.33, Z = -0.319, p=.750) the intervention. Overall, staff were neutral in their response to this domain which focused on treatment being able to control SUD, prevention of negative effects, and effectiveness of curing SUD.

Education intervention did change newly hired CNAs perceptions of SUD. Although not all the domains were significant, the perception change the four categories demonstrates the ability to change perception of diseases such as SUD through educational offerings. Prior experience with SUD patients, personal biases, and life experience have the potential to affect the ability to change perceptions. Change in perceptions did occur concerning SUD individual, therefore the projects goal was achieved.

## Limitations

Limitations of this project were the sample size and population. The implementation phase of the project was over two months. Sample size was dictated by the enrollment of the existing educational offering. Over the course of the two months, 38 individuals participated in the classroom education and the IPQ-A survey. Although there were statistically significant results in four out to the eight domains, the results would be stronger with a greater number of participants.

Population of the survey sample was limited in this project. For the project, the team utilized a convenience sample of newly hired CNAs. Information about backgrounds and previous experience with SUD patients may have played a role in the results, although was not considered in the project. In addition, the project focused on a small demographic within the overall CNA group. Results may have varied with incumbent staff who had experience with SUD patients in the acute care setting.

## Implications for Nursing

Certified nursing assistants are frontline staff in the acute care setting. Initial education for certification of CNAs varies significantly across the country. The number of hours in the clinical setting prior to becoming certified is individualized from state to state, along with the type of skills they can perform. Compounding the issue, many institutions do not provide robust orientations for CNAs, although this is changing with emerging upskilling implementation. Understanding patients and why they present in a certain manner is vital to caring for patients. CNAs spend a significant amount of time with the patients, potentially changing outcomes by the way they interact with patients. Perceptions of certain patient populations may decrease interaction and hinder the therapeutic relationship. Education is an effective way to breakdown perceptions in a positive manner, ultimately improving the relationship and interaction of CNAs and patients.

## Recommendations

A one hour class taught to newly hired CNAs in an acute care setting was one part of a larger concept. Perceptions are not easily changed when staff are confronted with patient populations in their everyday work. Biases and perceptions develop over time and may impact how staff interacts with patients. Initial and ongoing education for the CNAs and other healthcare professionals is crucial to changing perceptions of substance use disorder patients. Inclusion of Trauma Informed Care (TIC) and clinical boundaries are other elements to consider when creating a program to change practice and perceptions about the SUD patient population.

Results of this project supported the utilization of education to change perceptions of patients with SUD. However, further research/projects are recommended to assess the impact of education on perceptions in other healthcare workers and other high risk populations. Changing perceptions is an ongoing effort and requires diligence and perseverance to overcome.

# SECTION IX

## Utilization and Reporting of Results

Dissemination of information throughout the nursing community is vital to expanding knowledge and implementing best practices. In this project, it was demonstrated that specialized education can change perceptions of CNAs who care for patients with substance use disorder through the utilization of didactic and practical techniques. These findings can potentially change care by building stronger therapeutic relationships between staff and patients. In addition, modifying the education for other healthcare workers may also prove to be beneficial for changing perceptions around substance use disorder. Dissemination of information should start in the local setting and then venture out into other arenas.

At the local level, the findings of the study will be diffused through several methods. Results of the study will be shared with the Nursing Education and Research Council (NERC), which is a council lead by nurses and reviews all studies and outcomes within the system. NERC reports findings to the monthly hospital system nursing congress, allowing a large group of bedside nurses throughout the region to receive the information. The educational interventional and outcomes have already been discussed with the education department.

Collaborating with the education department was critical to the success of the project. Throughout the project a close relationship with the education department enhanced the educational offering by providing a space for the intervention. Sharing the outcomes of the project solidified the continued use of the projects content. Once dissemination is complete at the local level, the goal is to increase awareness about the

project and outcomes within the region. Future utilization of the projects outcomes is being formulated to create a larger program for SUD and other related components, such as caring for the behavioral health, trauma informed care, and clinical boundaries

Plans to expand the original study intervention is currently underway. The education department is developing a broader program and plan to ensure all staff receive information about SUD. Initially, the goal is to provide the same project intervention to all CNAs in the system, which was not covered in the original study. Plans include expanding and adapting the current model to help improve perceptions of behavioral health patients, because SUD and behavioral health patient have many of the same issues related to perceptions. In addition, during the project implementation, the education team decided to create a class to augment some of the project's success. The Holistically Oriented Personal Experience (HOPE) class was created from the concepts from the project. In the HOPE class, nurses and CNAs learn about trauma informed care, helping them understand, not only their own traumas and triggers, but also comprehend why patients may suffer from SUD and behavioral health issues. The HOPE class teaches about clinical boundaries when taking care of individuals with SUD, while still forming a therapeutic relationship. Resiliency is the other component of the HOPE class, teaching staff how to care for themselves when caring for patients who may cause emotional stress. All these concepts were built from the foundation of the original study elements, potentially boosting the initial education. Data related to outcomes will be ongoing to help demonstrate the impact of this important information.

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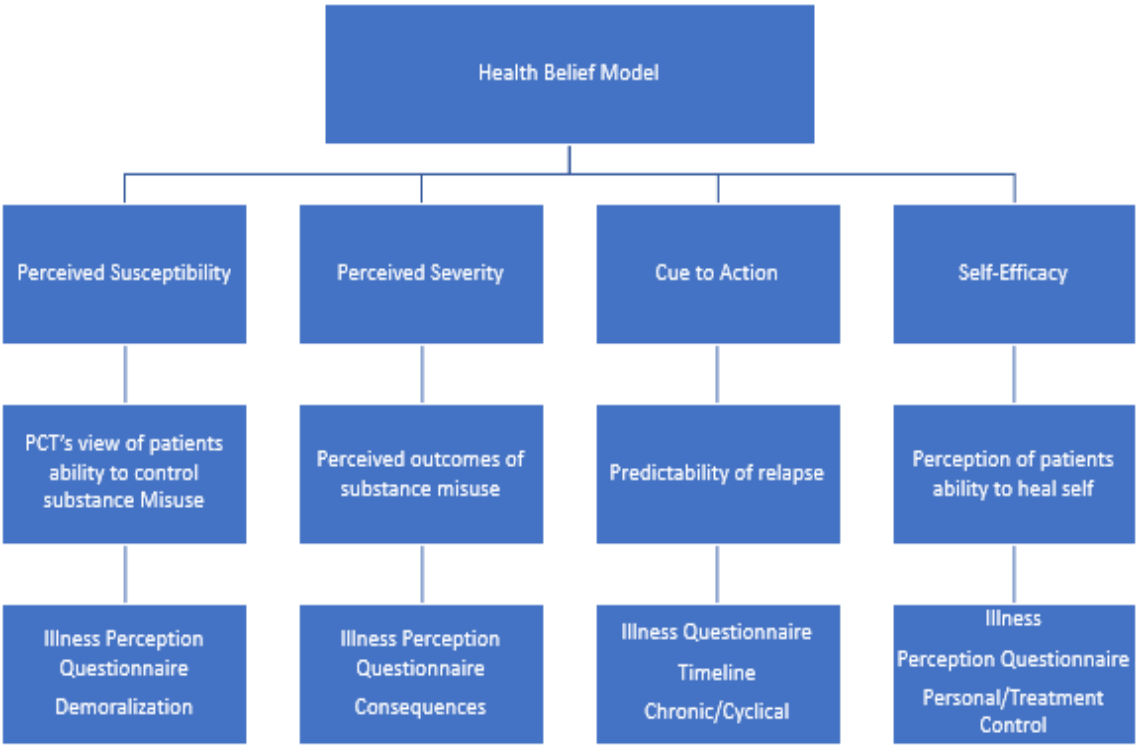
# Appendix A

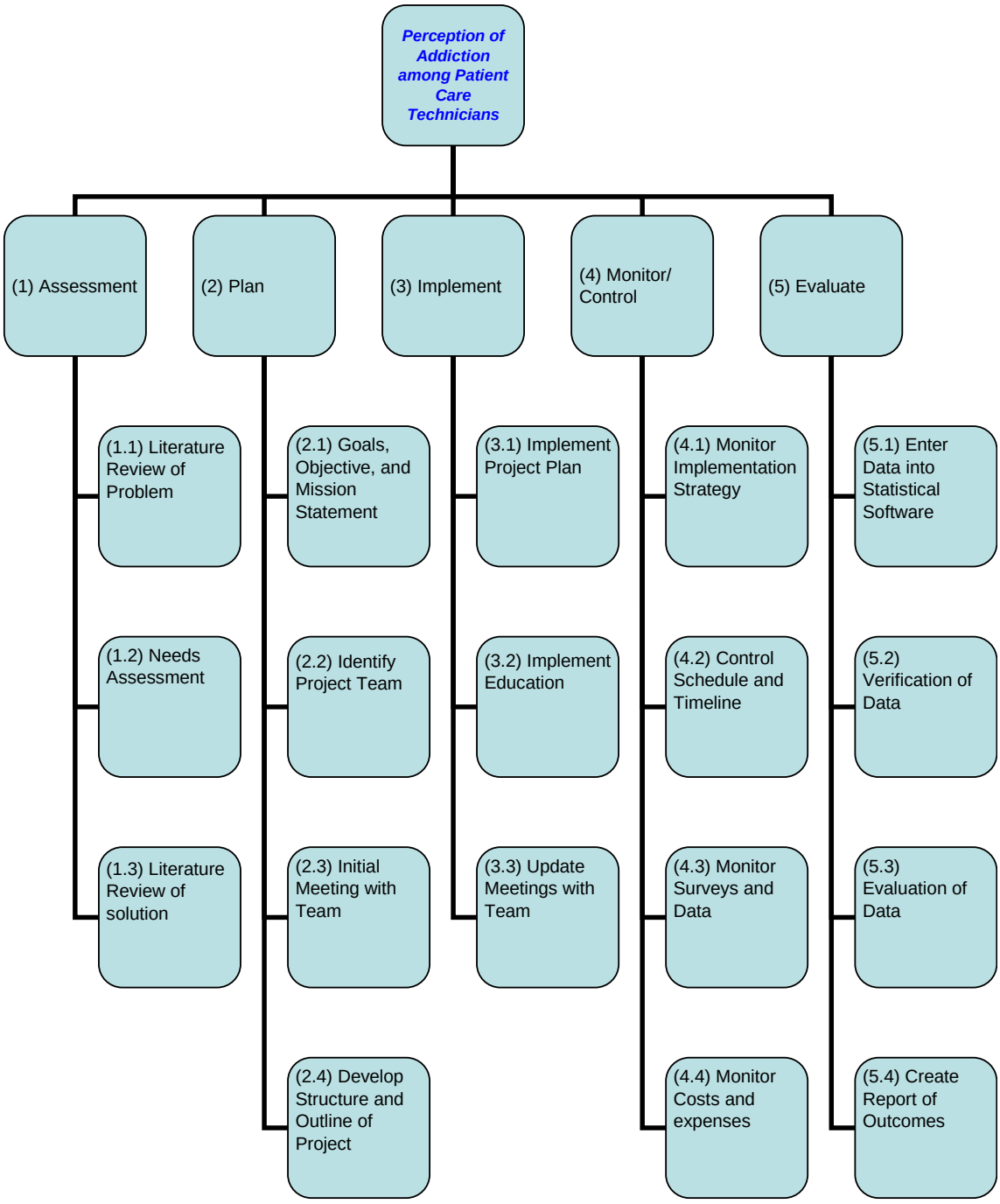
## CTE Health Belief Model




Conceptual Theoretical Empirical structure related to project

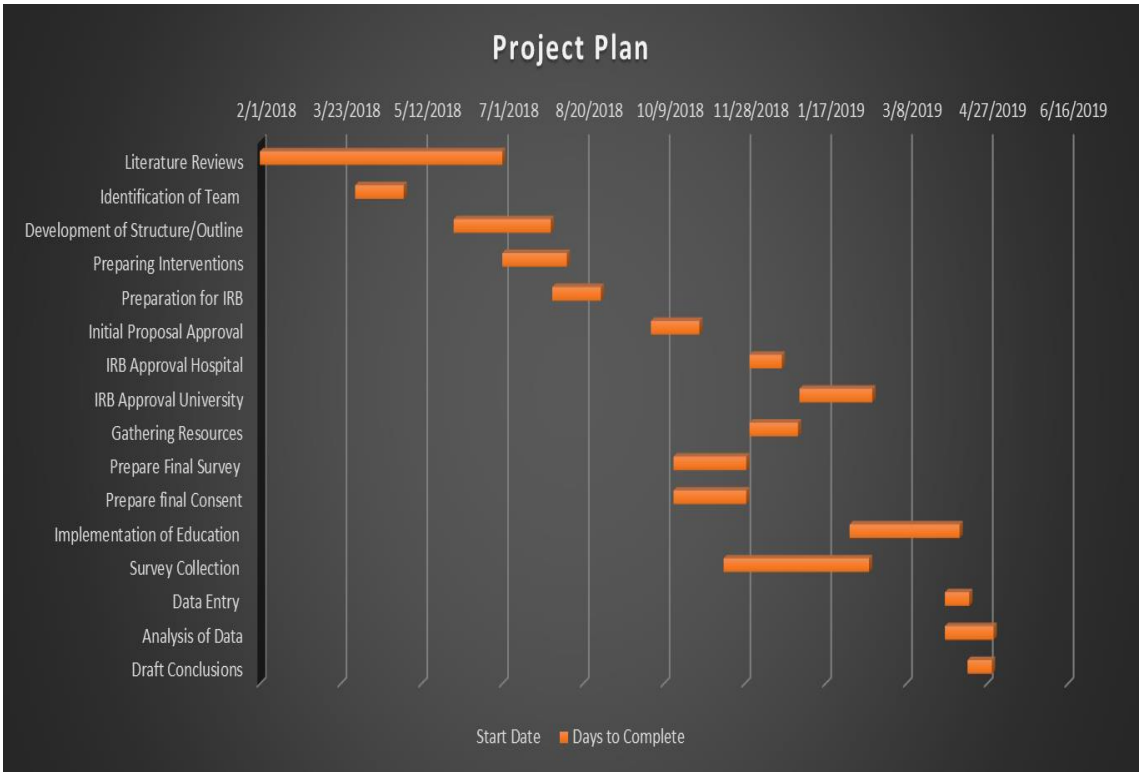
# Appendix B

## Work Breakdown Structure



# Appendix C

## Project Plan



# Appendix D

## Logic Model

| Inputs | Outputs | | Outcomes – Impact | | |
|---|---|---|---|---|---|
| | *Activities* | *Participation* | *Short* | *Medium* | *Long* |
| • Increased population of substance misuse disorder patients in the acute care setting<br>• Escalating behaviors of drug misuse patients not recognized by staff<br>• CNAs staff that lack information about substance misuse disorder<br>• CNAs at potential risk of injury if they are not able to build rapport with patients | • Educational activities provided to CNAs about substance misuse disorder<br>• PowerPoint describing substance misuse disorder<br>• Practical application through Escape Room exercise<br>• Pre and Post survey IPQ-A | • Newly hired CNAs will attend a 60-minute presentation that includes a didactic and practical component<br>• Newly hired CNAs will complete a pre IPQ-A survey at the beginning of the NA+4 class<br>• Newly hired CNAs will complete a post IPQ-A survey at the end of NA+4 class | • CNAs will have an increased understanding of substance misuse disorder<br>• CNAs perceptions of substance misuse disorder will improve<br>• CNAs responses will to the IPQ-A will show statistically significant changes | • Improved perception of substance misuse disorder<br>• Staff members assimilating education into practice at the bedside | • Fostering therapeutic relationships between CNAs and substance misuse disorder patients<br>• Improvements in care of the substance misuse patient in the acute care setting |

**Assumptions**

1. CNAs have a skewed perception of substance misuse patients
2. Education can improve perceptions of CNAs and other healthcare workers
3. Improving CNAs perception of substance misuse patients will foster therapeutic relationships

**External Factors**

1. Lack of funding for substance misuse disorder programs
2. Increasing epidemic of substance misuse disorder
3. Staffing ratios